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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,623	09/03/2004	Hizuru Nawata	Q83230	3488

23373 7590 02/22/2006

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EXAMINER

WENDELL, ANDREW

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/506,623	NAWATA, HIZURU	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andrew Wendell	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 03 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. Figures 5A and 5B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 2, 3, 4, and 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The term "relatively" in claims 1, 2, 3, 4, and 7 is a relative term which renders the claim indefinite. The term "relatively" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 1 lines 6, 10, and 18

Claim 2 line 11

Claim 3 lines 11, 15, and 24

Claim 4 lines 11 and 15

Claim 7 lines 6 and 7

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutomu (JP 07-123039) in view of Zehavi (US Pat Appl# 2003/0053432).

Regarding claim 1, Tsutomu's digital satellite communication system teaches a transmission device T (Drawing 1) including information amount magnitude discrimination means 102 (Drawing 1) for discriminating whether an amount of information to be transmitted per unit time is dependent on traffic, first communication data sending means T (Drawing 1) for, when the information amount magnitude discrimination means 102 (Drawing 1) discriminates that the amount of information to be transmitted is relatively heavy (higher value from nxR), digitally modulating 103 (Drawing 1) first information as the information into information in a signal form having a predetermined bandwidth with a predetermined center frequency, and sending out the information as communication data (Sections 0004, 0006, 0009-0010), and second communication data sending means T (Drawing 1) for, when the information amount magnitude discrimination means 102 (Drawing 1) discriminates that the amount of

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information to be transmitted is relatively small rate (smaller value from  $nxR$ ), digitally modulating second information as the information upon performing spread spectrum (digital signals) or another communication method to obtain the same bandwidth as the predetermined bandwidth with the center frequency, and sending out the information as the communication data (Sections 0004, 0006, 0009-0010), and a reception device R (Drawing 1) including demodulation means 105 (Drawing 1) for demodulating the communication data sent from the transmission device, de-spreading (digital signal) appropriateness discrimination means for checking whether or not a signal after demodulation can be normally de-spread (Sections 0006, 0011-0012), first information reproduction means for, when the de-spreading appropriateness discrimination means discriminates that de-spreading cannot be normally performed (value of  $n$  from sign rate  $nxR$ ), reproducing the first information from the signal after demodulation by the demodulation means (Sections 0006, 0011-0012), de-spreading means for, when the de-spreading appropriateness discrimination means discriminates that de-spreading can be normally performed (different value of  $n$  from sign rate  $nxR$ ), de-spreading the signal after demodulation by the demodulation means, and second information reproduction means for reproducing the second information from the signal after de-spreading by the de-spreading means (Sections 0006, 0011-0012). Tsutomu fails to teach the size of the information (large or small) changing the transmission method and clearly teaching transmitting for small information spread spectrum or for the receiving device de-spreading means.

Zehavi's apparatus for providing high speed data communications in a cellular environment teaches magnitude discrimination means for discriminating whether an amount of information to be transmitted per unit time is relatively large or small (Page 8, claim 12; it factors in encoding rate which is what Tsutomu teaches and amount of data/information), digitally modulating second information as the information upon performing spread spectrum (CDMA, Section 0061, the system is transmitting in a CDMA network) to obtain the same bandwidth as the predetermined bandwidth with the center frequency, and sending out the information as the communication data, and a reception device including demodulation means for demodulating the communication data sent from the transmission device (Page 7, Claim 1), de-spreading appropriateness discrimination means for checking whether or not a signal after demodulation can be normally de-spread (CDMA, Section 0053, the system is receiving in a CDMA network, and Page 7, Claim 1).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate the size of the information (large or small) changing the transmission method and clearly teaching transmitting for small information spread spectrum or for the receiving device de-spreading means as taught by Zehavi into Tsutomu's variable transmitter and receiver in order to improve transmitting digital data (Sections 0007-0008).

Regarding claim 9, the combination including Tsutomu teaches the information amount magnitude discrimination means discriminates, depending on whether or not a path through which information to be transmitted is acquired is a pre-specified path

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(method based on nxR), whether the amount of information to be transmitted per unit time is relatively large or small (Sections 0004, 0006, 0009-0010).

Regarding claim 10, the combination including Tsutomu teaches the information amount magnitude discrimination means discriminates, depending on whether or not a device which processes information to be transmitted is set in a pre-specified mode (method based on nxR), whether the amount of information to be transmitted per unit time is relatively large or small (Sections 0004, 0006, 0009-0010).

Regarding claim 11, the combination including Zehavi teaches the transmission device and the reception device comprise a radio device (Figs. 5 and 6, Section 0003).

Regarding claim 12, the combination including Tsutomu teaches the transmission device outputs transmission power in proportion to a transmission rate (Sections 0004, 0006, 0009-0010). If the transmission power were not in proportion to the rate the system would not work properly.

7. Claims 2 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutomu (JP 07-123039) in view of Zehavi (US Pat Appl# 2003/0053432) as applied to claim 1 above, and further in view of Cloutier et al. (JP 2000-316035) in view of Rennert et al. (US Pat Appl# 2003/0086503).

Regarding claim 2, Tsutomu's digital satellite communication system in view of Zehavi's apparatus for providing high speed data communications in a cellular environment teaches the limitations in claim 1. Tsutomu and Zehavi fail to teach a buffer and read clock.

Cloutier et al. selecting data rate mode in communication link teaches a transmission device further comprises a transmission buffer which sequentially receives information to be transmitted and the information amount magnitude discrimination means discriminates from an amount of information left in the transmission buffer whether the amount of information per unit time is relatively large or small (Sections 0023-0024).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a buffer as taught by Cloutier into the size of the information (large or small) changing the transmission method and clearly teaching transmitting for small information spread spectrum or for the receiving device de-spreading means as taught by Tsutomu in view of Zehavi variable transmitter and receiver in order to improve transmission rate allocation efficiency (Problem to be solved).

Tsutomu, Zehavi, and Cloutier fail to teach a read clock connected to the buffer.

Rennert et al. apparatus for passing large bitwidth data over a low bitwidth datapath teaches a buffer which sequentially receives information to be transmitted and outputs the information in synchronism with a predetermined read clock (Section 0026).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a read clock connected to the buffer as taught by Rennert et al. into a buffer as taught by Cloutier into the size of the information (large or small) changing the transmission method and clearly teaching transmitting for small information spread spectrum or for the receiving



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device de-spreading means as taught by Tsutomu in view of Zehavi variable transmitter and receiver in order to improve data transfer interfaces (Section 0008).

Regarding claim 7, Cloutier further teaches the information amount magnitude discrimination means sets a predetermined difference between a threshold (overflow or underflow) by which it is discriminated that an information amount is relatively large and a threshold by which it is discriminated that an information amount is relatively small (Sections 0023-0024).

Regarding claim 8, Cloutier further teaches the information amount magnitude discrimination means sets a threshold (overflow or underflow) by which it is discriminated that an information amount is relatively large to a value larger than a threshold by which it is discriminated that an information amount is relatively small (Sections 0023-0024).

### ***Allowable Subject Matter***

8. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Note, claims 3 and 4 are subject to overcoming the 112 second rejection above.

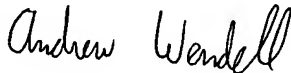
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patent Examiner

Date: 2/16/2006



**DUC NGUYEN**  
**PRIMARY EXAMINER**

ASW